NOTES ON THE BIOLOGY OF *NUNGENA BINOCULARIS* McKEOWN (COLEOPTERA: CERAMBYCIDAE: CERAMBYCINAE)

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Abstract

Cupressus macrocarpa is confirmed as a larval host of *Nungena binocularis*. An additional record from an unidentified *Cupressus* sp. is also provided. Aspects of the biology of both adults and larvae are discussed.

Introduction

Nungena binocularis is a small (*ca.* 10 mm long) cerambycid from Queensland and New South Wales (McKeown 1947). McKeown (1942) reared *N. binocularis* from "cypress pine" from Armidale (NSW). Various species of Cupressaceae have been recorded as larval hosts of *N. binocularis* including a number of introduced *Cupressus* spp. and *Sabina bermudiana* Antoine (Webb 1987, Webb *et al.* 1988). The only published native larval host is *Callitris columellaris* F. Muell. (Webb *et al.* 1988).

Two further larval host records of *N. binocularis* from New South Wales, with notes on its biology, are presented.

Observations

1. NSW, Eden, emerged late August 1988 from twigs (ca. 2-5 mm diameter) of dying *Cupressus macrocarpa* Hastw. collected on 1 March 1988.

Two adults had emerged by 26 August 1988. When twigs were dissected on 26 August 1988 no adults or pupae were present in the timber, but five larvae were removed. All larvae were located in pupal chambers and appeared to be at final instar stage. In some twigs, attack appeared to be concentrated around branch stubs (Fig. 1) but in others the sub-cortical tissue was almost completely removed, leaving the bark as semi-detached cylinders around the remaining timber (Fig. 2). Larval channels beneath the bark were very broad and somewhat artistically patterned in appearance (Fig. 3). Two clerid larvae were also collected from the *N. binocularis* tunnels.

2. NSW, Lapstone, teneral adults extracted 25-28 August 1987 from twigs (ca. 2-10 mm diameter) collected from a branch of a dying *Cupressus* sp. tree on 2 August 1987.

Some large twigs (*ca.* 10 mm diameter) dissected on 2 August 1987 contained teneral adults within intact pupation chambers (Fig. 4). The pupation plug was made from timber shavings rather than frass. No pupae or larvae were found. Adults removed from their pupation chambers were remarkably mobile and aggressive. The weevil, *Phloeosinus cupressi* Hopkins was also reared from this material, in large numbers.

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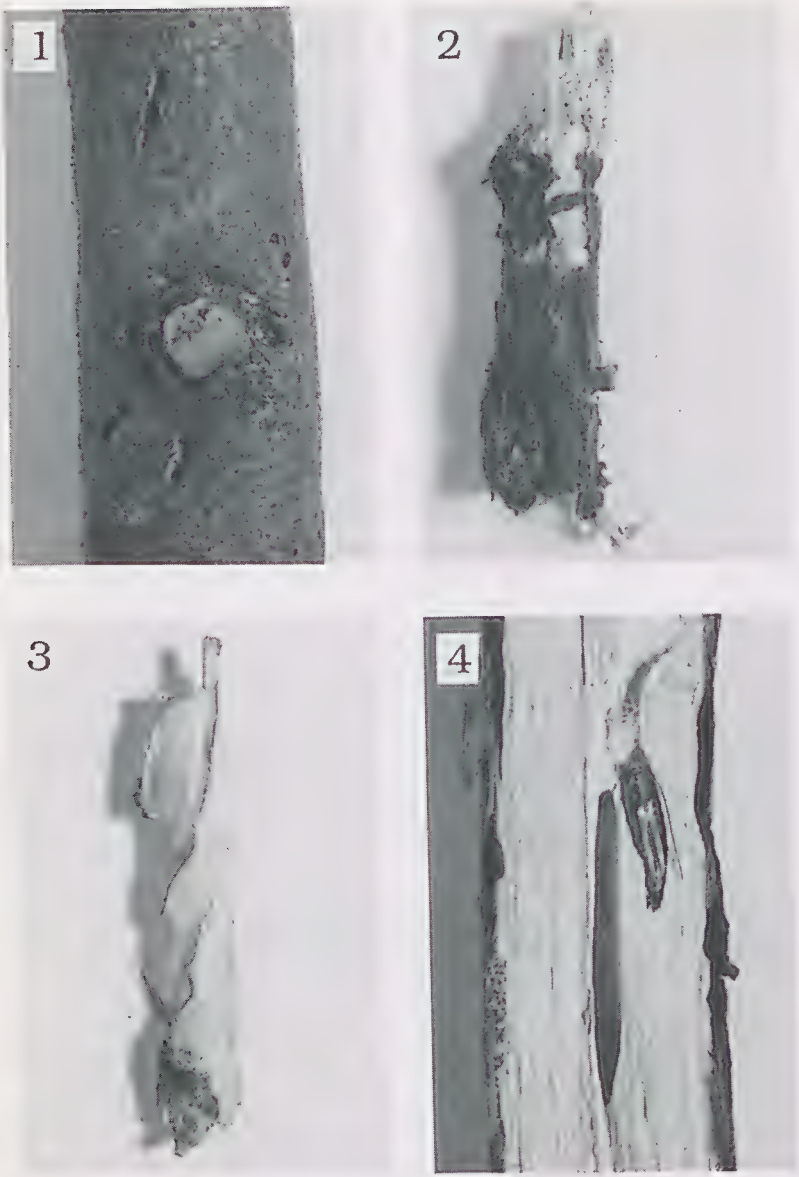

Figs 1-4. *Nungena binocularis*: (1) attack around branch stubs; (2) semi-detached bark resulting from extensive mining in the subcortical region; (3) sculptured heartwood; (4) teneral adult in pupal chamber.

Discussion

Teneral adults extracted from *Cupressus* spp. twigs from Lapstone appeared to be close to emergence. Thus, the emergence period in both samples was probably late winter - early spring. This is supported by emergence and capture times recorded by Webb (1987) and Webb *et al.* (1988).

The presence of teneral adults in pupal chambers in early August (Lapstone) and emergence of adults from timber in late August (Eden) suggests that individuals may metamorphose during late winter and spend some time in the pupal chamber awaiting warmer weather. However, a later emergence was likely, as mature larvae were present on 26 August in completed pupal chambers in timber from Eden.

As described by McKeown (1942), larvae produce very broad tunnels directly beneath the bark. Larvae apparently only entered the centre of the twig to pupate. The pupal chamber appears to be similar to most other similar sized species of the subfamily Cerambycinae (Duffy 1963, Webb 1988).

N. binocularis has been reared from *Callitris columellaris* from coastal Queensland (Webb *et al.* 1988) and from Barakula near Chinchilla in inland Queensland (Queensland Department of Primary Industries, Forest Service records). As yet there have been no records from *C. columellaris* in New South Wales but given that *N. binocularis* is known from numerous inland localities in New South Wales, and Queensland, within the range of *C. columellaris sensu* Stanley and Ross (1989), further records are likely.

Acknowledgments

The Forest Service of the Queensland Department of Primary Industry kindly provided unpublished records for *N. binocularis*. Roger de Keyzer and two anonymous referees provided valuable comments on various drafts.

References

DUFFY, E.A. 1963. *A monograph of the immature stages of Australasian timber beetles (Cerambycidae)*. Pp. 1-225. British Museum (Natural History), London.

McKEOWN, K.C. 1942. Australian Cerambycidae. VI. Descriptions of new species mostly from Queensland. *Records of the Australian Museum* **21:** 81-105.

McKEOWN, K.C. 1947. Catalogue of the Cerambycidae (Coleoptera) of Australia. *Memoirs of the Australian Museum* **10:** 1-190.

STANLEY, T.D. and ROSS, E.M. 1989. *Flora of south-eastern Queensland*, Vol. 3. Queensland Department of Primary Industries Miscellaneous Publication QM88001, Brisbane.

THOMPSON, J. and JOHNSON, L.A.S. 1986. *Callitris glaucophylla*, Australia's 'white cypress pine' - a new name for an old species. *Telopea* **2:** 731-736.

WEBB, G.A. 1987. Larval host plants of Cerambycidae (Coleoptera) held in some Australian insect collections. *Forestry Commission of New South Wales Technical Paper* **38:** 1-19.

WEBB, G.A. 1988. Notes on the biology of *Skeletodes tetrops* Newman (Coleoptera: Cerambycidae). *Australian Entomological Magazine* **15:** 73-75.

WEBB, G.A., WILLIAMS, G.A. and de KEYZER, R. 1988. Some new and additional larval host records for Australian Cerambycidae (Coleoptera). *Australian Entomological Magazine* **15:** 95-104.